

## ENTOMOLOGICAL ITEMS.

**SPHINGIDÆ OF NORTH AMERICA.**—The American entomological society will issue shortly a monograph of the *sphingidæ* of America north of Mexico, by Mr. John B. Smith.

**PUPA OF DANAI ARCHIPPUS.**—A paper, by Mr. J. H. Emerton, describing the anatomy of the chrysalis of *Danaï archippus* will appear in an early numero of the Memoirs of the Boston society of natural history. A plate will illustrate the paper.

**A NEW APPOINTMENT.**—Mr. Clarence M. Weed, for some time an assistant of Prof. S. A. Forbes, at Champaign, Ill., has been appointed entomologist to the Ohio agricultural experiment station, at Columbus, Ohio, where all correspondence for him should be addressed.

**APHIDIDÆ AND THEIR FOOD-PLANTS.**—Bulletin no. 4 of the Geographical and natural history survey of Minnesota contains a synopsis of the *aphididæ* of the state by Prof. O. W. Oestlund. A list of North American plants with species of *aphididæ* known to attack them is added.

**A NEW ELEMENTARY ENTOMOLOGY.**—Prof. A. S. Packard has prepared an Entomology for beginners, which will be published in June by Henry Holt and company. The book will contain brief descriptions of the principal families of all orders, followed by directions for collecting and preserving insects, a chapter on injurious insects, &c. The work will be fully illustrated.

**COLOR-PREFERENCE IN ANTHRENUUS.**—The following curious note is taken from a paper by John B. Smith, entitled, "Some observations on museum pests" (Proc. Entom. soc. Washington, 1887, v. 1, no. 2), p. 115.

"As a rule *Anthrenus* can hardly be considered fastidious, but occasionally they manifest color preferences. In one specimen of *Grapta interrogationis* the black spots bordering on the costa were neatly cut out, no other portion of the wing-being touched. Its

career was suddenly cut short before it had quite finished one wing, and I now regret that I did not allow it to continue its work to note whether it would have attacked the other wing in the same manner."

**ON THE SEXES OF LEPIDOPTEROUS LARVÆ.**—Mr. J. A. Weniger, in an article with the above title, published in the *Entomologist* for April 1887, states that the sex of some of the larvæ of *Attacus* can be distinguished, in the later larval stages, by examination of the under side of the last segment that bears stigmata. In the female, on the middle of the ventral side of this segment, there is a dark blotch, in natural size not larger than the head of a pin, and the middle of this blotch has a yellowish tint. In the male the same blotch is present, but its "middle is a dark green spot, which gives the appearance of a hole: this is only from the internal organs, and is a liquid substance; for should a larvæ of each sex be killed and emptied, nothing of the signs will remain." Mr. E. B. Poulton, in a note following Mr. Weniger's communication thinks it should be confirmed by further observation, but adds: "It is quite clear that, as Mr. Weniger implies, the markings have not the value of external organs of reproduction, but if their presence is confirmed they will prove to be the blind terminations of the ducts of the sexual glands, which should be found beneath the cuticle at this very spot, as Herold showed, in the case of the larva of *Pieris brassicæ*, towards the beginning of this century."

**HOUSEHOLD PESTS.**—The publishers of *Good housekeeping* (Springfield, Mass.) offer four prizes, each of twenty-five dollars, for recipes or treatment against household pests. The first prize is for an exterminator for the so-called Buffalo-bug (*Anthrenus scrophulariæ*), the second for the bed-bug (*Cimex lectularius*), the third for moths, and the fourth for flies and fleas. The mode of treatment will be published in *Good housekeeping*, "and afterwards have a test of merit at the

hands of a committee, composed of three competent housewives, and, upon satisfactory tests being had, cash prizes will be awarded. The treatment in all cases must be safe for handling, and in no way deleterious to the person, texture, or household belongings of any kind."

The notice of these prizes appears in the numero of *Good housekeeping* for 28 April 1888, but no definite time is set for sending in descriptions of competing methods.

COLORATION OF COCOONS AND PUPAE.—In continuation of an item entitled "Mimetic coloration of pupae of butterflies" in the April numero of *PSYCHE* (p. 48), the following extracts are given, taken from reports, by Herbert Goss, of the proceedings of the Entomological society of London, at the meetings of 2 Nov. 1887, and 7 March 1888, as published in the *Entomologist*, Dec. 1887, v. 20, p. 331-332, and April 1888, v. 21, p. 119.

"Mr. E. B. Poulton exhibited (2 Nov. 1887) the cocoons of three species of lepidoptera, in which the color of the silk had been controlled by the use of appropriate colors in the larval environment at the time of spinning up. Mr. Poulton said this color susceptibility had been previously proved by him in 1886 in the case of *Saturnia carpinii*, and the experiments on the subject had been described in the Proc. Royal society, 1887. It appears from these experiments that the cocoons were dark brown when the larvae had been placed in a black bag; white when they had been freely exposed to light with white surfaces in the immediate neighborhood. Mr. Poulton stated that two other species subjected to experiment during the past season afforded confirmatory results. Thus the mature larvae of *Eriogaster lanestris* had been exposed to white surroundings by the Rev. W. J. H. Newman, and cream-colored cocoons were produced in all cases; whilst two or three hundred larvae from the same company spun the ordinary dark brown cocoons among the leaves of the food-plant. In the latter case the green surroundings appeared to act as a stimulus to the produc-

tion of a color which corresponded with that which the leaves would subsequently assume. Mr. Poulton further stated that he had more recently exposed the larvae of *Haliastur prasinana* to white surroundings, and had obtained a white and a very light yellow cocoon—far lighter than the lightest of those met with upon leaves. The larva which spun the white cocoon had previously begun to spin a brown one upon a leaf, but upon being removed to white surroundings it produced white silk. Mr. Stainton suggested that larvae should be placed in green boxes, with the view of ascertaining whether the cocoons would be green. He understood that it had been suggested that the cocoons formed amongst leaves became brown because the larvae knew what color the leaves would ultimately become. Mr. Poulton said he felt convinced that the whole process was entirely involuntary, and that the susceptibility had arisen through the action of natural selection."

"Mr. W. White read (7 March 1888) a paper on 'Experiments upon the color-relation between the pupae of *Pieris rapae* and their immediate surroundings,' which comprised a detailed account and discussion of a series of observations carried on, at the author's instigation, by Mr. G. C. Griffiths, of Bristol. The various experiments were intended to act as a further test of the conclusions arrived at by Mr. E. B. Poulton in his paper on the subject recently published in the Transactions of the Royal society; and to effect this object different and additional influences had been brought to bear on these pupae, so that an analogy might be drawn between the two sets of results."

The above notes are given in full, in the hopes that American breeders of insects will try experiments in this direction. The expense, both of time and money, in carrying on this kind of experimenting is little, while the results, if the work is carefully done, are very valuable contributions to physiological knowledge. G. D.